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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/672,534 | 09/26/2003 | Greg A. Hupp | TI-36552 | 3721 |
| 23494 7590 09/24/2007 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265 | | | EXAMINER LAO, LUN S | |
| | | | ART UNIT 2615 | PAPER NUMBER |
| | | | NOTIFICATION DATE 09/24/2007 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com
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Office Action Summary

Application No.

10/672,534

Applicant(s)

HUPP, GREG A.

Examiner

Lun-See Lao

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06-21-2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. This action is response to the application's response filed on 06-21-2007. Claims 1-18 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gulick (US 2001/0003166) in view of Inoue (US 2003/0059063).

Consider claim 1 Gulick teaches that an audio amplifier electrical circuit comprising:

- a. a pre-amplified audio circuit (see fig.5, (112 and fig.6 (212))) having volume control inputs;
- b. an audio amplifier (114) connected to the pre-amplified audio source (4) that outputs an amplified audio signal;
- c. a power supervisory circuit (108) that monitors the power used by the audio amplifier (114); and
- d. a volume control circuit (see fig.6 (208)) that activates the volume control inputs (see page 3 [0033]-page 4[0039]); but Gulick does not explicitly teaches a volume

control circuit that activates the volume control inputs when the supervisory circuit detects the power used by the audio amplifier is beyond a pre-determined limit.

However, Inoue teaches a volume control circuit (see fig. 1 (2)) that activates the volume control inputs when the supervisory circuit detects the power used by the audio amplifier is beyond a pre-determined limit (such as set-point value and see page 3 [0028]-[0031]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Inoue into Gulick so that the amplitude limiting operation starts will be lessened.

Consider claims 2-3 Gulick teaches that the circuit of the pre-amplified audio circuit (see fig. 6 (212)) is a DAC which converts a digital audio signal to a pre-amplified audio signal; and the circuit of the volume control inputs (203) are digital (see page 3 [0028]-[0031]).

Consider claim 4 Inoue teaches the circuit of the supervisory circuit detects (see fig. 1 (2)) a voltage supply to the audio amplifier (3) falls below a pre-determined limit (such as set-point value and see page 3 [0028]-[0031] and see the discussion above claim 1).

Consider claim 12 Gulick teaches that an audio amplifier system for driving computer speakers connected to a USB port comprising (see fig. 5):

- a. a bus port (112) connection connectable to a computer (102) from the audio amplifier system having data and power signals inherently (because by the USB port);

b. a USB DAC (see fig.6 (212)) having volume control inputs and a USB interface (200) which can be connected to a personal computer (102) to receive a digital audio signal and output a corresponding analog audio signal;

c. an audio amplifier (114) connected to the analog audio signal from the USB DAC (212) that outputs an amplified audio signal (114) for driving speakers (116);

d. a power supervisory circuit (108) that monitors the power used by the audio amplifier; and

e. a volume control circuit (see fig.6 (208)) that activates the volume control inputs (see page 3 [0033]-page 4[0039]); but Gulick does not explicitly teaches a volume control circuit that activates the volume control inputs when the supervisory circuit detects the power used by the audio amplifier is beyond a pre-determined limit.

However, Inoue teaches a volume control circuit (see fig. 1 (2)) that activates the volume control inputs when the supervisory circuit detects the power used by the audio amplifier is beyond a pre-determined limit (such as set-point value and see page 3 [0028]-[0031]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Inoue into Gulick so that the amplitude limiting operation starts will be lessened.

Consider claims 13-15 Gulick teaches the system of the power used by the system is supplied over the bus port (see fig. 5 (112)) connected to the computer (102); and the pre-amplified audio circuit (see fig. 6 (212)) is a DAC which converts a digital audio

signal to a pre-amplified audio signal; and the circuit of the volume control inputs (203) are digital (see page 3 [0028]-[0031]).

Consider claim 16 Inoue teaches the circuit of the supervisory circuit detects (see fig.1 (2)) a voltage supply to the audio amplifier (3) falls below a pre-determined limit (such as set-point value and see page 3 [0028]-[0031] and see the discussion above claim 12).

Consider claim 17 it is essentially similar to claim 16 and is rejected for the reason stated above apropos to claim 16.

Consider claims 5-10 they are essentially similar to claims 12-17 and are rejected for the reason stated above apropos to claims 12-17.

4. Claims 11, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gulick (US 2001/0003166) as modified by Inoue (US 2003/0059063) as applied to claims 5, 12 above, and further in view of Okamoto (US PAT. 6,573,693).

Consider claim 18 Gulick and Inoue do not teach the system of further comprising a resistor between the bus port power signal input and the audio amplifier to insure a voltage drop to the pre-determined limit when the audio amplifier draws current which approaches a limit specified by a USB power signal specification.

However, Okamoto teaches the system (see figs 1-2) of further comprising a resistor (R2) between the bus port power signal input (T1) and the audio amplifier (A1) to insure a voltage drop to the pre-determined limit when the audio amplifier draws current which

approaches a limit specified by a USB power signal specification (100 and see col. 4 line 16-col. 5 line 64).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Okamoto in to the teaching of Inoue and Gulick so that the amplify audio system will have a voltage drop protecting system.

Consider claim 11 it is essentially similar to claim 18 and is rejected for the reason stated above apropos to claim 18.

Response to Arguments

5. Applicant's arguments filed 06-21-2007 have been fully considered but they are not persuasive.

Applicant argued that "Inoue is concerned with sound volume, not with the amount of power used by his amplifier, and thus sets his sound volume set- point value based on the value of a variable resistor 1" (see the remarks page 6 3rd paragraph).

The examiner disagrees. When a sound volume is adjusted, it is inherently adjusted amount of power by the amplifier. Inoue teaches controlling the amplification factor of an amplifying section 3 based on a sound volume set-point value signal (variable resistor 1). The sound volume set-point value detecting section (20) receives a signal from the variable resistor 1 feedback to the control signal generating section (4) for controlling the AGC amplifier 3 (see page 3 [0029]-[0030]). Therefore, it meets the limitation as recited in claim 1.

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Martin (US PAT. 7,171,010) is cited to show other related automatic power foldback for audio applications.

8. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Art Unit: 2615

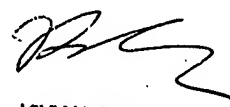
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See *L.S.*
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 09-06-2007


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600